

Material Safety Data Sheet

2-ETHYL HEXANOYL CHLORIDE

Section 1 - Product and Company Information

Substance	: 2-Ethylhexanoyl Chloride, 2 - Ethylcaproyl chloride.
Trade Name	: 2-Ethylhexanoyl Chloride
Chemical Family	: Acid Chloride
Company	: Shiva Pharmachem Ltd.
	Plot No: Z/88 & Z/88/4.
	SEZ Part-1
	Village: Dahej – 392130
	Taluka: Vagra.
	District: Bharuch, Gujarat, India.
Phone No.	: +91-2641-291321 & +91-2641-291322
Fax No.	: +91-265-2357238
Emergency Information	: ----
International emergency number	: +91 2662 221021 & +91-265-2335432

Section 2 - Hazards Identification

Emergency overview

DANGER:

COMBUSTIBLE.

CORROSIVE.

Highly toxic by inhalation.

CAUSES SKIN BURNS.

CAUSES EYE BURNS.

MAY BE HARMFUL IF SWALLOWED.

Avoid contact with the skin, eyes and clothing.

Avoid inhalation of mists/vapours.

Use with local exhaust ventilation.

Wear NIOSH-certified chemical goggles.

Wear chemical resistant protective gloves.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

Wear full face shield if splashing hazard exists.

State of matter: liquid

Colour: colourless to yellow

Odour: pungent odour

Potential health effects

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation.

Routes of entry for

gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Of very high toxicity after short-term inhalation. Of moderate toxicity after single ingestion. In animal studies the substance is virtually nontoxic after a single skin contact.

Irritation / corrosion:

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Corrosive! Damages skin and eyes. May cause severe damage to the eyes.

Sensitization:

No data available concerning sensitizing effects.

Chronic toxicity:

Repeated dose toxicity: No known chronic effects.

Genotoxicity: The substance was not mutagenic in bacteria.

Section 3 – Composition / Information on Ingredients

Product Name	CAS No.	EC No.	Mol. Formula	Mol. Wt.
2-Ethyl Hexanoyl Chloride	760-67-8	212-081-1	C ₈ H ₁₅ ClO	162.66 g/mol

Section 4 – First Aid Measures

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Keep a person warm and at rest. Call a physician.

EYE Contact

Check for and remove any contact lenses. In case of contact with eyes, flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician

INGESTION

If swallowed, wash out mouth with water provided person is conscious and drink plenty of water. Do not induce vomiting or give anything if victim is unconscious. Call a physician immediately.

SKIN CONTACT

In case of contact with skin, remove contaminated clothing and flush skin with copious amounts of water for at least 15 minutes. Call a physician

Section 5 – Fire Fighting Measures

Flash point: 79 °C

Autoignition: 246 °C

Self-ignition temperature: Based on its structural properties the product is not classified as self-igniting.

CONDITIONS OF FLAMMABILITY

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, Dry chemical powder or foam. Unsuitable: Do not use water.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 – Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Breathing protection required. Avoid contact with skin, eyes and clothing's.

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PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

General advice: Ensure proper ventilation of store and work area.

Directions for Safe Handling: Do not breathe vapor. Do not allow to get in eyes, on skin and on clothing. Avoid prolonged or repeated exposure.

Protection against fire and explosion: Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, and open flame.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat and open flame. No smoking. Store in a cool dry place.

SPECIAL REQUIREMENTS

Readily hydrolyzed with water.

Section 8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use non sparking tools. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wear protective clothing. Wash contaminated clothing before reuse. Wash thoroughly after handling. Discard contaminated shoes.

PERSONAL PROTECTIVE EQUIPMENT

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. Face shield (8-inch minimum).

Section 9 - Physical and Chemical Properties

Properties

Form	: liquid
Odour	: pungent odour
Colour	: colourless
pH	: Acidic
BP/BP Range	: 182 °C 760 mm Hg , 67.0 - 68.0 °C 11 mm Hg.
MP/MP Range	: - 75 °C
Flash Point	: 79 °C Method: closed cup.
Flammability	: Not flammable
Auto ignition Temp	: Data not available.
Oxidizing Properties	: Data not available.

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Explosive Properties : Data not available.
 Explosion Limits : Data not available.
 Vapor Pressure : 0.72 mmHg 67.7 °C
 SG/Density : 0.939 g/cm³ at 20°C

Partitioning coefficient noctanol/water (log Pow) : 2.4 (25 °C) (calculated)

Solvent Content : Nil

Water Content : Reacts with water.

Solubility : Miscible with non polar aromatic solvent like toluene. Miscible with methylene dichloride, ethylene dichloride.

Section 10 - Stability and Reactivity

STABILITY:

Stable at normal conditions of temperature and pressure.

Materials to Avoid: Strong bases, Alcohols, Oxidizing agents, Water.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

Section 11 - Toxicological Information

ACUTE TOXICITY

LC50 Inhalation, Rat, 1.34 mg/l Duration 1 hr

Remarks: Lungs, Thorax, or Respiration. Other changes.

LD50 Oral Mammal 1500 mg/kg

LD50 Oral Rat 1900 mg/kg

LD50 Skin Mammal > 2000 mg/kg

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin. Causes burns.

Section 12 - Ecological Information

Fish

Acute:

OECD 203; ISO 7346; 84/449/EEC, C.1 static

Brachydanio rerio/LC50 (96 h): 66.3 mg/l

The statement of the toxic effect relates to the analytically determined concentration. The product may hydrolyse. The test result maybe partially due to degradation products. After neutralization no appreciable reduction in harmful effect can be observed.

OECD Guideline 203 semistatic

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Cyprinus carpio/LC50 (96 h): 4.92 mg/l

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Aquatic invertebrates

Acute:

Directive 79/831/EEC static

Daphnia magna/EC50 (48 h): 85.4 mg/l

The product has not been tested. The statement has been derived from the properties of the hydrolysis products. Nominal concentration. other static

Daphnia magna/EC80 (72 h): 56 mg/l

The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Aquatic plants

Toxicity to aquatic plants:

DIN 38412 Part 9 green algae/EC50 (72 h): 49.3 mg/l

The product has not been tested. The statement has been derived from the properties of the hydrolysis products. The details of the toxic effect relate to the nominal concentration.

Microorganisms

Toxicity to microorganisms:

OECD Guideline 209 aerobic

activated sludge, industrial/EC20 (30 min): 650 mg/l

The product may hydrolyse. The test result maybe partially due to degradation products. The product has not been tested. Nominal concentration.

DIN 38412 Part 8 bacterium/EC50 (17 h): 112.1 mg/l

The product has not been tested. The statement has been derived from the properties of the hydrolysis products. The details of the toxic effect relate to the nominal concentration.

DIN 38412 Part 27 (draft) bacterium/EC50: 673 mg/l

The product has not been tested. The statement has been derived from the properties of the hydrolysis products. Nominal concentration.

Degradability / Persistence

Biological / Abiological Degradation

Test method: OECD 301E; 84/449/EEC, C.3 (aerobic),

Method of analysis: DOC reduction

Degree of elimination: 99 % (28 d)

Evaluation: Readily biodegradable (according to OECD criteria).

Readily biodegradable (according to OECD criteria).

The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Bioaccumulation

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Section 13 - Disposal Considerations

SUBSTANCE DISPOSAL

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This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

Land transport

USDOT

Hazard class : 6.1

Packing group : II

ID number : UN 2927

Hazard label : 6.1, 8

Proper shipping name : TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (contains 2-ETHYLHEXANOYL CHLORIDE)

Sea transport

IMDG

Hazard class : 6.1

Packing group : II

ID number : UN 2927

Hazard label : 6.1, 8

Marine pollutant : NO

Proper shipping name : TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (contains 2-ETHYLHEXANOYL CHLORIDE)

Air transport

IATA/ICAO

Hazard class : 6.1

Packing group : II

ID number : UN 2927

Hazard label : 6.1, 8

Proper shipping name : TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (contains 2-ETHYLHEXANOYL CHLORIDE)

Section 15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: C , Corrosive.

Refer section 2 (Hazard identification for R and S phrases)

Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

OSHA hazard category: Water Reactive; Highly toxic - inhalation; Acute target organ effects reported; Corrosive to skin and/or eyes; Combustible Liquid

EPCRA 311/312 (Hazard categories): Reactivity; Acute;

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COUNTRY SPECIFIC INFORMATION

United States inventory (TSCA 8b): Listed

Australia inventory (AICS): Listed

Canada inventory (DSL): Not listed in DSL but listed on NDSL

China inventory (IECSC): Listed.

Korea inventory (KECI): Listed.

New Zealand (NZIoC) : Not listed.

Philippines inventory (PICCS) : Listed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

WHMIS (Canada) Class E: Corrosive liquid. Class B-3: Combustible liquid with a flash point between 37.8°C and 93.3°C . Class D-1A: Material causing immediate and serious toxic effects (Very toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability 2 Health 4 Reactivity 0

Section 16 - Additional Information

NFPA Hazard Code

HEALTH: 3 FIRES: 2 REACTIVITY: 2 SPECIAL:

HMIS III rating

Health: 3 Flammability: 2 Physical Hazard: 2

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